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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,343	02/16/2001	Hideyuki Kikuchi	3008-21	2849
20457	7590	10/24/2003	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			XU, LING X	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/784,343

Applicant(s)

KIKUCHI ET AL.

Examiner

Ling X. Xu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: on page 5, line 20, the particle size of 100 nm should be equivalent to 100×10^{-6} mm not 100×10^{-9} mm described in the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2 and 4, it recites that the particle size is 100 nm (100×10^{-9} mm). However, 100nm should be equivalent to 100×10^{-6} mm. Please clarify.

The following substantive examination is based on the Examiner's understanding that the particle size is 100nm (100×10^{-6} mm).

In claims 2 and 4, line 2, it is unclear if both the metal oxide fine particle sol and silicon oxide fine particle sol are present or at least one of them is present.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnston et al (US 4,760,296).

Johnston discloses, with respect to claim 1, a corona-resistant ("partial discharge-resistant") resin composition containing a polymeric material and an additive of 5 to 40% by weight of alumina (aluminum oxide) or silica (silicon oxide) particles (col. 3, lines 35-60). The ratio of the particles (of the alumina or silica) in the resin described above is equivalent to 5 to 40 parts of particles to 95 to 60 parts of resin, which is equivalent to a ratio of about 5 to 70 parts by weight of the particles to about 100 parts by weight of resin. Accordingly, the ratio of the particles and resin is within the claimed range of 3 to 100 parts by weight of the particles to 100 parts by weight of resin.

Johnston also discloses that the particles are formed substantially uniformly dispersed throughout the resin of the polymeric material (col. 3, lines 50-60) and the particle size

preferably less than 0.1 micron (col. 3, lines 50-60 and col. 6, lines 40-45). Accordingly, the resin composition is a fine particles sol.

With respect to claim 2, Johnston discloses that the additives may be used singly or together in the resin (col. 4, lines 20-25), which indicates that both alumina or silica particles can be present in the resin composition.

With respect to the limitation of the particle sol being transparent or opalescent colloid liquid, the particle sol disclosed by Johnston can either be transparent or opalescent, there is no other form possible. Also, the composition comprises fine particle in about 5 to 40% by weight and uniformly dispersed throughout the resin (col. 3, lines 35-60) indicates that the composition is a colloid liquid.

With respect to the particle size, Johnston discloses the resin composition containing alumina or silica particles of size less than about 0.1 micron (100nm) dispersed in the resin composition (col. 6, lines 40-45).

With respect to claims 3-4, Johnston discloses the conductor wire coated with the corona-resistant resin composition containing submicron silica or submicron alumina particles. The claimed resin composition recited in claims 3-4 has exactly the same components and characteristics as recited in claims 1-2. Accordingly, Johnston meets the limitations of claims 1-2 as well as claims 3-4.

5. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hake et al.(US 5,861,578).

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Hake discloses, with respect to claim 1, a corona-resistant (“partial discharge-resistant”) resin composition comprising alumina (aluminum oxide) particles dispersed in a polymeric binder (col. 4, lines 15-25). The composition comprises 10-40 parts by weight of alumina particles in to about 80 parts by weight of the polymeric binder (col. 4, lines 35-43), which is equivalent to a ratio of about 12.5 to 50 parts by weight of the particles to about 100 parts by weight of the resin binder. Accordingly, the ratio of the particles in the resin is within the claimed range of 3 to 100 parts by weight of the particles to 100 parts by weight of resin.

Hake also discloses that the particles are dispersed in a polymeric binder and the particle size is less than 0.1 micron (col. 4, lines 15-25 and col. 5, lines 1-5). accordingly, the resin composition is a fine particles sol.

With respect to claim 2, Hake discloses the alumina particles dispersed in a polymeric binder (col. 4, lines 15-25). The alumina particle size is less than about 0.1 micron (100nm) (Col. 5, lines 1-5).

With respect to the limitation of the particle sol being transparent or opalescent colloid liquid, Hake discloses that the composition tends to be substantially transparent but preferred to incorporate a sufficient amount of a coloring agent (col. 5, line 15-30) and therefore, the composition can either be transparent or opalescent. Also, the composition comprises 10-40 parts by weight of alumina particles dispersed in to about 80 parts by weight of the polymeric binder (col. 4, lines 35-43 and col. 5, lines 1-5) and the polymeric binder may be fluid thermoplastic or thermosetting polymeric resins (col. 5, lines 55-65), which indicates that the composition is a colloid liquid.

With respect to claims 3-4, Hake discloses a magnet wire comprising a multilayer insulation system with the conductor core coated with an inner most layer, a intermediate layer comprising the corona-resistant resin composition with alumina particles dispersed therein. The claimed resin composition comprising alumina particles recited in claims 3-4 has exactly the same components and characteristics as recited in claims 1-2. Accordingly, Hake meets the limitations of claims 1-2 as well as claims 3-4.

With respect to claim 5, Hake discloses an outermost layer serving as a lubricious outer coating for the insulation system (col. 6, lines 40-50).

Therefore, Hake meets all the limitations of claims 1-5.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston et al (US 4, 760, 296) in view of Hake et al (US 5,861,578).

Johnston discloses a corona-resistant ("partial discharge-resistant") resin composition containing a polymeric material and an additive of alumina or silica particles (col. 3, lines 35-60).

Johnston also discloses that the particles are formed substantially uniformly dispersed throughout the resin of the polymeric material (col. 3, lines 50-60) and the particle size preferably less than 0.1 micron ("fine particle sol") (col. 3, lines 50-60 and col. 6, lines 40-45).

Johnston further discloses the conductor wire coated with a resin containing submicron silica or submicron alumina particles (col. 9, lines 53-62).

Johnston does not disclose a lubricant coating layer on the outer circumference of the corona-resistant resin containing silica or submicron alumina or silica.

Hake teaches an outermost layer for the purpose of serving as an electrically insulative, flexible, abrasion resistant, lubricious outer coating for the corona-resistant insulation layer (col. 6, lines 40-50).

Therefore, it would have been obvious to one of ordinary skill in the art to add an outermost layer to Johnston's corona-resistant resin layer in order to protect the corona-resistant layer and provide electrically insulation and lubrication to the corona-resistant layer, as taught by Hake.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 703-305-0395. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 703-308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Ling X. Xu
Examiner
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